



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

DEVAL L. PATRICK
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RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

December 12, 2013

Michael Kramer, Vice President, Golf Ball Manufacturing & Operations
Acushnet Company
P.O. Box 965
Fairhaven, Massachusetts 02719-0965

RE: **ADMINISTRATIVE AMENDMENT to PLAN APPROVAL**

Application for: BWP AQ 02
Non-Major Comprehensive Plan Application
Transmittal No.: W121668
Application No.: 4P07012
Facility No.: 130016

AT: Acushnet Company - **Ball Plant II**
256 Samuel Barnet Boulevard
Dartmouth, Massachusetts 02174

Dear Mr. Kramer:

The Department of Environmental Protection, Bureau of Waste Prevention, (“MassDEP”) reviewed Non-Major Comprehensive Plan Application (NMCPA) No. 4P07012 dated April 2007 and received April 27, 2007, and supplemental information received on May 30, 2007, relative to the proposed construction and operation of new equipment and modifications to existing processes to manufacture a variety of golf balls at **Ball Plant II**, Acushnet Company (“Titleist” or “Facility”), 256 Samuel Barnet Boulevard, Dartmouth, Massachusetts. The installation of the new equipment and modifications to existing processes as well as continued use of existing air pollution control equipment to control paint spraying and drying VOC (volatile organic compounds) and HAP [HAP means a Hazardous Air Pollutant as listed in the 1990 Clean Air Act (CAA) Amendments Section 112 (b)] emissions as well as the restrictions on facility fuel usage, will result in new facility-wide potential emission limits that will allow the entire facility to operate as a minor source. All previous air plan approvals will be superseded by the issuance of this NMCPA. The original NMCPA was issued on June 12, 2007. This administrative amendment reflects the removal of No. 6 oil firing from two existing boilers designated Boilers 1 and 2. Acushnet will be installing a new more efficient gas fired burner in accordance with the fuel switching exemption at

310 CMR 7.02(2)(b)(14) before 12/31/2013. This amendment removes the No. 6 oil firing related conditions and adjusts the emission limitations accordingly. The NO_x emissions are also adjusted to reflect the actual date of installation of the IC engine.

The application was submitted in accordance with section 7.02 Plan Approval and Emissions Limitations as contained in 310 CMR 7.00 “Air Pollution Control Regulations,” adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-E and Chapter 21C, Sections 4 and 6.

MassDEP’s review has been limited to air pollution regulation compliance and does not relieve you of the obligation to comply with all other permitting requirements.

The application was submitted over the seal and signature of Dale T. Raczynski, Registered Massachusetts Professional Engineer, No. 36207 of Epsilon Associates, Inc.

A review of the pertinent information contained in NMCPA No. 4P07012 indicates that Titleist manufactures golf balls of various types and construction. General operations used in the manufacture of golf balls include core manufacturing and molding, cover manufacturing and molding, surface preparation, pad printing, primer coating and final top coating. The manufacturing processes emit Particulate Matter (PM), Volatile Organic Compounds (VOCs), Halogenated Organic Compounds (HOCs), and Hazardous Air Pollutants (HAPs) as a result of the use of coatings and cleaners that contain these compounds.

Titleist is proposing to continue to use thermal destruction of VOC/HAP emissions as Best Available Control Technology (BACT) for its golf ball paint spraying operations at Ball Plant II by continuing to use two regenerative thermal oxidizers (RTOs) for 16,000 cfm per RTO. For uncontrolled coatings, Titleist will continue to maintain operating restrictions such as paint transfer efficiencies, paint or material usage as well as VOC content limitations, expressed in lbs VOC per gallon solids applied. Additionally, Titleist will, at a minimum, comply with the emission limitations set forth at 310 CMR 7.18(21) Surface Coating of Plastic Parts when applying coatings meeting the definitions of primer coat, color coat or color/texture coats to thermoplastic covered golf balls.

NMCPA No. 4P07012 requests approval to construct/modify and/or continue to operate the following:

- Two (2) existing regenerative thermal oxidizers (RTOs) to control the emissions up to 16,000 scfm per RTO from the spray booths. Each RTO is sized for 16,000 scfm (2.5 MMBTU/hr heat input);
- Install one (1) new paint spray booth for a total of thirteen paint spray booths (six primer, six solvent based topcoat, and one “swing” booth for primer or topcoat (swing booth exhausted only to RTO whenever spray painting with either primer or topcoat);

- Modifications to the spray room – permanently sealing open areas where ceiling meets the wall. Makeup air rates from existing makeup air units will increase automatically to maintain negative pressure in the room;
- Revise capture efficiency of the top coat spray booths from 100% to 97.17% for the spray booth room. This will reduce overall control efficiency from 98% to 95.23%;
- One (1) new pad print machine for a total of fifteen (15) installed pad print machines;
- One (1) existing ink cup washer to support pad printing process;
- One (1) new ball washer for re-work in support of pad printing process;
- Two (2) existing maintenance parts washers;
- Two (2) existing TEXO tanks;
- Install four (4) new Buffing units for a total of thirty two (32) buffing units; all buffing machines are equipped with HEPA (high efficiency particulate absolute) filtration exhausting internally;
- Install one (1) new pressure blast machine for a total of nine (9) pressure blast machines; all pressure blast machines exhausting externally including integral stainless steel mesh filters;
- Twenty four (24) existing Glebar units;
- Install one (1) new Lycos grinding machine for a total of four (4) grinding machines. All grinding machines exhaust to an existing Lycos Dust Collector;
- One (1) existing Wedco, Seven (7) existing Wortex and three (3) Bird centrifuges exhausting to an existing Wedco Dust Collector;
- Existing Paint Mix Room including paint mix cleaning;
- Existing Core Molding including one (1) core mold spray booth and two (2) core mold release ovens;
- Existing Ball Mold and ball mold cleaning;
- Two (2) existing natural gas fired boilers (16.4 MMBTU/hr each);
- One (1) existing diesel fired emergency diesel generator (4.06 MMBTU/hr);
- One (1) new gas fired IC engine cogeneration unit (2 MW, approximately 19.8 MMBTU/hr) subject to 310 CMR 7.26(43), Industry Performance Standards for non-emergency engines and turbines – included in this NMCPA for facility wide potential to emit purposes only;
- Supersede the following plan approvals:
 - a) Final Approval of LPA Non-Fuel Emissions No. 4P04022, dated November 22, 2004;
 - b) Plan Approval No. 4P03010, dated November 13, 2003.

MassDEP is of the opinion that the application is in conformance with current air pollution control engineering practices, and hereby grants PLAN of NMCPA No. 4P07012 subject to the following provisions:

A. EQUIPMENT DESCRIPTION

The design, construction and operation of the equipment referenced herein shall be consistent with the approved NMCPA and the above list of equipment.

B. PRODUCTION LIMITATIONS

None.

C. OPERATIONAL LIMITATIONS

1. Titleist shall not exceed equipment or material-specific total **VOC** raw material usage (sum of all VOC in all coatings, inks and cleaners) in accordance with the short term and long term limits identified in Table C.1. Note that the term “year” as it appears throughout this document means any consecutive 12-month time period and the term “month” as it appears throughout this document means a 4 or 5 week period consecutive period. For recordkeeping purposes, the week typically begins on the start of third shift Sunday and ends on the start of third shift the following Sunday. Months that contain four Saturdays will be recorded as “4 week months” and months that contain five Saturdays will be recorded as “5 week months.”

a)

Table C.1. Raw Material VOC Usage Restrictions

Process	Tons/year (TPY)	Pounds/month (lb/mo)
primer spray booths	21.29	6,000
Paint Mix Room*	108.39	30,330
controlled topcoat spray booths	83.94	23,470
Pad Printing Process**	10.8	3,700
Facility wide cleaning***	3.54	900

Total paint created for use assumes 3% residue left in pots, e.g.: (1.03)(21.29 + 83.94)

** Includes inks, thinners, cleaning (including ink cups, ball washing re-work)

***Includes mill cleaning, mold cleaning, miscellaneous cleaning in paint spraying operations, ultrasonic parts washer and maintenance parts washers

Titleist shall not exceed **core mold release** (Diamondkote W3548 or equivalent) usage sprayed in the core mold release spray booth in accordance with the following short term and long term limits:

- b) 600 gallons/year
- c) 60 gallons/month

Titleist shall not exceed **injection mold release/auto buff mold release** (MAC 444A) usage in accordance with the following short term and long term limits:

- d) 120 gal/yr
- e) 15 gal/mo

Titleist shall not exceed **acetone** usage in accordance with the following short term and long term limits:

- f) 2,000 lb/yr
- g) 500 lb/mo

Titleist shall not exceed **HAPs (individual and total)** usage in accordance with the following short term and long term limits:

- h) HAP total – 64.0 TPY
 - i) HAP total – 18,280 lb/mo
 - j) HAP single – 54.9 TPY
 - k) HAP single – 15,650 lb/mo
2. Titleist shall control the exhaust flows from the topcoat spray booths with the approved RTOs during solvent-based spray painting operations.
 3. Each RTO may control exhaust flows from up to four (4) topcoat spray booths and Titleist may, when operating 4 (four) or less topcoat spray booths, operate only one (1) RTO.
 4. Titleist may alter any of its spray booths to optimize operations without prior approval if the following criteria are met:
 - a) Titleist notifies MassDEP in writing within thirty (30) days after making such alterations;
 - b) The spray booth room's capture efficiency as demonstrated by testing conducted on October 24, 2006 (Test Report dated 12/13/06 as approved by MassDEP letter dated February 5, 2007) is continuously achieved and maintained;
 - c) The alteration will not cause the facility-wide monthly and annual VOC emission rates to be exceeded;
 - d) The alteration will not cause the facility-wide monthly and annual HAP (single and total) emission rates to be exceeded;
 - e) The alteration will not cause the facility-wide monthly and annual Particulate Matter (PM) emission rates to be exceeded.
 5. Titleist shall submit a plan application in accordance with 310 CMR 7.02 for the primer spray booths if the alterations or modifications performed on them do not meet the minimum exemption design criteria found at 310 CMR 7.03(16)(d), (e), (f) and (i).
 6. Titleist shall achieve and maintain the following minimum overall Particulate Matter (PM) control efficiencies for spray booth operations at the Ball Plant II facility:
 - a) Primer Coat = 98.0 %
 - b) Topcoat = 95.8 %
 - c) Mold Release = 95 %
 7. Titleist shall achieve and maintain the following minimum spray gun transfer efficiency:
Primer: 6,867 ball coats per gallon

8. Titleist shall achieve and maintain the following minimum spray gun transfer efficiency:
Topcoat: 6,923 ball coats per gallon
9. Titleist shall determine spray gun transfer efficiencies for all new VOC/HAP containing spray coatings to verify and maintain compliance with provisions C.7 and C.8.
10. Titleist shall use High Volume Low Pressure (HVLP) spray guns or other coating application methods that achieve equivalent or better transfer efficiencies to HVLP spray application and is approved by MassDEP.
11. Titleist shall achieve and maintain a minimum Particulate Matter (PM) overall control efficiency of 99.9% for the two (2) baghouses: 1) Lycos Dust Collector for the Lycos Grinding Machines, and 2) Wedco Dust Collector for the Bird Centrifuge, Wortex Grinders, and Wedco Grinder.
12. Titleist shall achieve and maintain a minimum PM overall control efficiency of 99.8% for the nine (9) Pressure Blast units.
13. Titleist shall not exceed the maximum VOC/HOC contents of coatings, inks, release agents and cleaners in accordance with the limits contained in the following table:

Table C.2. – VOC/HOC BACT Limitations ⁽¹⁾

Product Formulation	Maximum VOC: Solids Ratio (lbs VOC/gal solid)	Maximum VOC/HOC Content (lbs VOC/gal)
Primer	4.13	1.067
Topcoat ⁽²⁾	N/A	N/A
Pad Print Ink	55.54	5.9
Ink Process Cleaners ⁽³⁾	N/A	7.9
Core Mold Release	N/A	0.0
Injection Mold Release	N/A	10.11 lb HOC/gal
Mold Cleaner	N/A	7.67
Paint spray booth cleaners/ miscellaneous cleaners ⁽⁴⁾ (isopropanol and/or MEK)	N/A	6.8
Parts Washer	N/A	6.5

Notes:

1. All VOC & Solids Content BACT limitations identified in Table C.2. are on an “as applied” basis.
2. BACT for solvent-based topcoat will be thermal destruction.
3. Includes ink thinners, cleaners, ink cup cleaners, ball wash cleaners.
4. MEK, IPA and commercial cleaners used throughout the facility for miscellaneous cleaning.

14. Titleist shall achieve and maintain an overall VOC concentration at the combined exhaust outlet of the two RTO's of **7** ppmvd as carbon (MW 12) when inlet VOC concentrations are less than 250 ppmvd.
15. Titleist shall achieve and maintain a minimum VOC destruction efficiency of 98% for each of the two (2) RTOs when the RTO inlet VOC concentrations are equal to or greater than 250 ppmvd.
16. Titleist shall achieve and maintain a minimum 97.17 % VOC room capture efficiency in the paint spraying (all topcoat spray booths including flash-off and drying) area.
17. Titleist shall use a worst-case potential emission factor of three percent (3%) of the VOC prepared for paint spraying to calculate fugitive VOC emissions from paint mixing and account for the residue that remains in the mixing pots where manual mixing is required.
18. Titleist shall maintain the temperature and residence times in the combustion chambers of the two (2) regenerative thermal oxidizers in accordance with the following limits unless testing conditions indicate higher temperatures are necessary:

Table C.3. – Thermal Oxidizer Minimum Temperature and Residence Time BACT Requirements

Thermal Oxidizer	Temperature*	Residence Time**
RTO1 (16,000 cfm)	1,500°F	1.0 second
RTO2 (16,000 cfm)		

* Temperatures shall be measured by thermocouples located at the downstream ends of the combustion chambers.

** Minimum residence time shall be met under all operating conditions for the effective chamber volume of each oxidizer when operated at 1,500° F.

19. Titleist shall limit VOC and HAP emissions from all golf ball manufacturing operations at Ball Plant II in accordance with the emission limits contained in the attached Tables A, B, C, D, and E, by using only coatings and raw materials meeting the limitations specified in Table C.2. and by operating in accordance with the operational limits contained in Section C of this Plan Approval. Titleist is responsible for the completeness and accuracy of Table C.2, including VOC, HAP, HOC and solids content information. Additional VOC/HAP containing materials may be used in golf ball manufacturing operations provided that **PRIOR TO USE** of any new formulations Titleist must:
 - a) Maintain a complete and updated raw material and “as applied” material list to be entitled “Approval No. 4P07012 – Titleist ‘As-received’ and ‘As-applied’ Materials - Revision (date)” on file at the Ball Plant II Facility. Titleist shall also maintain a completed BWP AQ SFP-1 form (with calculations, VOC, HOC, HAP and solids content test data if available), for each new VOC or HAP containing coating formulation, on file at the facility. Titleist shall maintain pertinent information for all raw material formulations on an “as received” and “as applied” basis, documenting VOC, HOC, HAP and solids content.

- b) Ensure that use of any new formulation(s) shall not cause Titleist to exceed the limits (operational and/or emission) identified in Section C and attached Tables A through E of this Plan Approval.
 - c) If any new formulation(s) to be used will cause the facility to exceed the above limits then Titleist must obtain MassDEP's approval prior to the production application of any new VOC, HOC and/or HAP-containing formulation(s).
 - d) Research and Development – New or modified VOC formulations used in small amounts for research and development at the Ball Plant II facility are exempt from Table C.2. "VOC BACT Limitations." The total amount of VOC-containing formulations exempted for research and development shall not exceed 55 gallons in any consecutive 12-month period. In addition, Titleist must identify the "exempt" coatings and notify MassDEP 30 days prior to its first use. Titleist shall comply with all recordkeeping and testing requirements, including tracking of emissions from research and development formulations, contained in this Plan Approval.
20. Natural gas shall be the exclusive fuel of use in the two (2) RTOs.
21. Existing boilers No. 1 and No. 2 shall burn natural gas only after December 31, 2013.
22. No. 6 fuel oil with a sulfur content not in excess of 0.55 pounds per million Btu heat release potential (approximately equivalent to 1.0 % sulfur content fuel oil by weight) shall not be used in existing boilers No. 1 and 2 after December 31, 2013.
23. The proposed 2 MW natural gas fired IC engine cogeneration unit shall be operated in compliance with 310 CMR 7.26 (43), Industry Performance Standards, Engines and Turbines.
24. Be advised this Plan Approval does not constitute approval to install and operate the engine described in the proviso C.23, above. The engine must be installed and operated in accordance with Industry Performance Standards contained in 310 CMR 7.26(43), including the certification requirements contained in 310 CMR 7.26(43)(e)1.
25. Existing boilers No.1 and No.2 (combined) shall not burn more than the following quantities of fuel in any given year or month:
- a) 163,636,284 cubic feet natural gas/year;
 - b) 27,552,000 cubic feet natural gas/month;
26. The emergency generator (installation date: October 30, 1989) is subject to 310 CMR 7.02(8)(i).
27. The emergency generator shall burn diesel fuel. Diesel fuel delivered to the emergency generator shall comply with the fuel sulfur content limits contained in 310 CMR 7.03(10)(b).
28. The emergency generator shall not exceed a maximum heat rate input of 4.06 MMBtu/hr.

29. The operation of the emergency generator shall not exceed 300 hours per 12 month rolling period.
30. Titleist shall operate the emergency generator for emergency standby power only during:
 - a) normal maintenance and testing; and
 - b) periods of electrical power outage due to failure of the grid in whole or in part, on-site disaster, local equipment failure, flood, fire, or natural disaster; and
 - c) When the imminent threat of a power outage is likely, or other emergency conditions as provided for in 310 CMR 7.03(10)(a)(4)(c).
31. The total heat rate inputs of the combustion equipment referenced in this Plan Approval (2 boilers, 1 engine, 1 generator, 2 RTOs) shall not exceed 61.7 MMBtu/hour.
32. Titleist shall operate and maintain compliance with all applicable requirements contained in 310 CMR 7.18 U Volatile and Halogenated Organic Compounds including:
 - a) 310 CMR 7.18 (8) U Solvent Metal Degreasing;
 - b) 310 CMR 7.18 (21) Surface Coating of Plastic Parts, including Table 310 CMR 7.18 (21)(e)1., RACT Emission Limitations for Surface Coating of Plastic Parts Using Low/no VOC Coatings – Business Machines/Miscellaneous Plastic Parts and Table 310 CMR 7.18 (21)(e)2., RACT Emission Limitations for Surface Coating of Plastic Parts Using Add-on Air Pollution Controls – Business Machines/Miscellaneous Plastic Parts, when applying new thermoplastic coatings meeting the definitions of primer coat, color coat or color/texture coats.
 - c) 310 CMR 7.18 (27) Coating Mixing Tanks.
33. Titleist shall store and dispose of VOC's in a manner that will minimize evaporation to the atmosphere. Proper storage shall be in a container with a tight fitting cover. Proper disposal shall include incineration in an approved incinerator, transfer to another person licensed by MassDEP to handle VOC, or any other equivalent method approved by MassDEP.
34. Titleist shall take any and all measures necessary to insure that the operation of equipment used in the manufacturing process shall not result in visible emissions (i.e., zero percent opacity), exclusive of uncombined water vapor. These measures, to be determined by MassDEP, may include add-on pollution control equipment and/or shutdown of the equipment while corrective actions are being employed.
35. Titleist shall ensure that operations involving the periodic maintenance of heat transfer media (RTO bake-outs) shall not result in visible emissions exceeding the limitations set forth in 310 CMR 7.06 (1)(b).
36. The ammonia slip design value for the selective catalytic reducer (SCR) shall not exceed 10 parts per million (ppm).

D. EMISSION LIMITATIONS

1. Titleist shall not exceed the emission limits contained in this Plan Approval including, but not limited to, attached Tables A, B, C, D, and E.
2. The operation of equipment used in the manufacturing process shall not result in visible emissions (i.e., zero percent opacity), exclusive of uncombined water vapor.
3. Titleist shall, at a minimum, comply with the visible emissions limitations set forth in 310 CMR 7.06 (1) (b) during periodic maintenance of heat transfer media (RTO bake-outs).

E. RECORDKEEPING AND MONITORING REQUIREMENTS

1. Titleist shall maintain detailed records, including any other credible evidence, documenting and demonstrating the compliance status of the facility with respect to the provisions contained in this Plan Approval.
2. Titleist shall continuously monitor the pressure drop across each RTO heat recovery chamber as an indication of particulate loading. Titleist shall develop and implement a particulate control program to reduce the loading to the RTOs. This program shall include but not be limited to regular duct cleaning, maintenance of heat transfer media (bakeouts), and research to improve upstream particulate controls. Titleist shall maintain records, including dates and times, of these activities.
3. Titleist shall continuously record the temperature of the products of combustion at the combustion chamber exits of each of the two (2) regenerative thermal oxidizers during coating operations.
4. Titleist may reconcile VOCs, HOCs, non-criteria pollutants, and HAPs contained in any hazardous waste shipped during the month when determining monthly emissions. The facility shall maintain beginning and end of year inventory records, hazardous waste disposal records, and purchase records for VOCs, HOCs, non-criteria pollutants, and HAPs containing material, such that MassDEP may check these for consistency with plant logs. Such records shall verify the VOC, HOCs, non-criteria pollutants, and HAPs content, and quantity present, in the waste being shipped if reconciling monthly emissions.
5. Titleist shall maintain records of any maintenance and/or repair work performed on any air pollution control equipment at the facility. These records shall, at a minimum, include:
 - A record of routine maintenance activities performed on emission unit control and monitoring equipment including, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed; and

- A record of all malfunctions on emissions unit control and monitoring equipment including, at a minimum, the date and time the malfunctions occurred; a description of the malfunctions and the corrective actions taken; the date and time corrective actions were initiated; and the date and time corrective actions were completed and the emission unit returned to compliance.
6. A copy of all records shall be kept readily available on-site for a period of five (5) years and shall be made available to the U.S.E.P.A. and/or MassDEP upon request.

F. NOTIFICATIONS AND REPORTING

1. MassDEP's Compliance and Enforcement Chief for the Bureau of Waste Prevention at this office, must be notified by telephone, or by fax within twenty-four (24) hours, and with written notification within ten (10) days, after the occurrence of any upsets or malfunctions to the facility equipment, air pollution control equipment, or monitoring equipment which result in an excess emission to the air and/or a condition of air pollution.
2. Notwithstanding Provision F.1., Titleist shall notify MassDEP of any upsets or malfunctions to the air pollution control equipment lasting 5 days or longer. Such notification shall be in writing on the fifth day of such upset or malfunction and shall, at a minimum, include the following:
 - a) The date and time the upset/malfunction occurred;
 - b) A description of the upset/malfunction and the corrective actions being taken;
 - c) The date and time corrective actions were initiated.
3. In addition to Provision F.2., Titleist shall notify MassDEP in writing on the day the air pollution control equipment is operational and document the corrective actions taken as well as any other steps taken to prevent, to the greatest extent possible, a recurrence of the upset or malfunction.
4. All notifications and reporting required by this Plan Approval shall be made to the attention of:

Department of Environmental Protection
Bureau of Waste Prevention
20 Riverside Drive
Lakeville, Massachusetts 02347
Attn: Greg Hunt, Chief, Compliance and Enforcement Section
Telephone: (508) 946-2878
Fax: (508) 947-6557
(508) 946-2865

G. GENERAL CONDITIONS

1. If any nuisance condition(s) should be generated by the operation of this facility, then the facility shall take immediate appropriate steps to abate the nuisance condition(s), including shutdown if necessary.
2. If asbestos remediation/removal should be required as a result of the approved construction, reconstruction, or alteration of this facility, removal/remediation of asbestos shall be done in accordance with Regulation 310 CMR 7.15 in its entirety and 310 CMR 4.00.
3. The facility shall allow MassDEP and/or USEPA personnel access to the plant site, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.
4. Please be advised that this Plan Approval does not negate the responsibility of the facility to comply with other applicable federal, state, or local regulations now or in the future.
5. This Plan Approval may be suspended, modified, or revoked by MassDEP if, at any time, MassDEP determines that any condition or part of this Plan Approval is being violated.
6. MassDEP's Compliance/Enforcement Chief for the Bureau of Waste Prevention at this Office must be notified by telephone, or fax as soon as possible after the occurrence of any upsets or malfunctions to the facility equipment, air pollution control equipment, or monitoring equipment that result in an excess emission to the air and/or a condition of air pollution.
7. Emissions from the facility approved herein shall be reported on subsequent source registrations as required by 310 CMR 7.12.
8. Any proposed increase in emissions above the limits contained in this Plan Approval must first be obtained in writing by MassDEP pursuant to MassDEP's Air Pollution Control Regulations. In addition, any increase may subject the facility to additional regulatory requirements.
9. The ability of the facility to maintain emission rates at or below the levels stated in this Plan Approval shall be demonstrated to MassDEP in the future if deemed necessary.
10. The facility shall be constructed and operated in strict accordance with the application approved herein. Should there be any differences between the aforementioned application and this approval letter, this approval letter shall govern.
11. Any future compliance tests that may be required at this facility shall be conducted in accordance with procedures set forth by the appropriate EPA Reference Test Methods and Air Pollution Control Regulations, 310 CMR 7.00, Section 7.13. A written pretest protocol must be submitted to this office for written Department approval at least thirty (30) days prior to the

actual test. A test results report shall be submitted to this office within thirty (30) days after the completion of any required compliance testing.

12. The facility shall comply with all provisions contained in this Plan Approval. Should there be any differences between the provisions contained in these “General Conditions” and provisions contained elsewhere in this Plan Approval, the latter shall govern.
13. The facility shall continue to investigate pollution prevention, which includes the feasibility of implementing alternative technologies or reformulated raw material inputs, including but not limited to, coatings which will lead to the decrease of overall emissions from the facility to the environment (air emissions, solvent waste, etc.). The facility shall record any information supplied to them relative to reducing overall emissions and pollution prevention techniques. This information as well as any progress toward decreasing overall emissions to the environment shall be recorded in an Environmental Logbook, or similar recordkeeping system.

H. SPECIAL CONDITIONS

1. Plan Approval No. 4P07012 establishes authorization for the facility to construct and operate the proposed manufacturing equipment. The facility and equipment shall be constructed and operated in strict accordance with CPA No. 4P07012 approved herein.
2. Plan Approval No. 4P07012 supersedes the following approvals thereby making them null and void:
 - a) Final Approval of LPA Non-Fuel Emissions No. 4P04022, dated November 22, 2004;
 - b) Plan Approval No. 4P03010, dated November 13, 2003.
3. Titleist shall notify MassDEP of the date the planned new gas fired IC engine (2 MW, approximately 19.8 MMBTU/hr) has been installed and deemed ready for continuous operation. Such notification shall be in writing and within thirty (30) days of the date the subject equipment has been installed.
4. If deemed necessary by MassDEP, Titleist shall demonstrate that each of the two (2) thermal oxidizers operate at minimum VOC destruction efficiency such that a combined exhaust outlet concentration not to exceed 7 ppmvd as carbon (MW 12) is achieved when RTO inlet VOC concentrations are less than 250 ppmvd and a minimum VOC destruction efficiency of 98% when inlet RTO VOC concentrations are equal to or greater than 250 ppmvd. For testing purposes, Titleist shall operate at the maximum current demonstrated daily production rate normalized to an hourly average. If deemed necessary by MassDEP, Titleist shall demonstrate a minimum of 97.17% capture efficiency (as defined by 310 CMR 7.00) for the room containing the solvent based top-coat spray booths. All compliance testing shall be conducted in accordance with the test methods and procedures set forth in 40 CFR Part 60, Appendix A; 310 CMR 7.00, Section 7.13; and this Plan Approval. The dates and times for conducting the

emission compliance test shall be coordinated with Department personnel of this office for a mutually agreed upon schedule for testing.

5. A written pretest protocol shall be submitted to this office, for review and approval, at least 30 days prior to the commencement of emission testing and shall describe the following:
 - a) The test methods for the emission testing;
 - b) Sampling point locations;
 - c) Sampling equipment;
 - d) Sampling and analytical procedures;
 - e) Parametric emissions monitoring systems (PEMS) to ensure continuous compliance with emissions limitations;
 - f) The operating conditions for the required testing, and
 - g) The independent third party testing company.
6. Any final emissions test results report must be submitted to this office within 30 days of the completion of testing. The final emission test report shall include, but not be limited to:
 - a) A description of the emission compliance testing program conducted;
 - b) Applicable emission limits for which testing was required;
 - c) A summary of test results demonstrating compliance and/or noncompliance with applicable limits;
 - d) Sampling point locations;
 - e) Sampling equipment;
 - f) Sampling and analytical procedures;
 - g) Actual test methods used;
 - h) The actual operating conditions for which the test was conducted, and
 - i) The identity of the independent third party testing company.
7. Bypassing of an RTO during periods of malfunction is forbidden other than when provisions 7.a) through 7.c), or provision 7.d) are met:
 - a) To complete the current job being processed provided that it shall not exceed twenty-four (24) hours in duration,
 - b) Calendar day VOC emissions will not exceed 399 lb/day for all thirteen (13) spray booths combined (the maximum daily rate that will not exceed the major source threshold of 50 TPY) and
 - c) Monthly and annual VOC potential emissions limits will be complied with; or
 - d) MassDEP approves in writing a written request from Titleist that supports continued solvent-based topcoat spray booth operations.

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and Regulations 301 CMR 11.00, Section 11.04, provide certain “Fail-Safe

Provisions” which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

The enforceable conditions contained herein, establish the federally enforceable status of this **PLAN APPROVAL**. MassDEP reserves the right to require changes in the standard operating and/or maintenance procedures and recordkeeping systems, and to require additional process monitoring if it is determined necessary by MassDEP to ensure continuous compliance with the Air Quality Control Regulations contained in 310 CMR 7.00.

This Approval is an action of MassDEP, you have a limited right to appeal. Please refer to the attached “APPEAL” information.

Enclosed are two (2) stamped approved copies of the application submittal (public and confidential versions).

Should you have any questions pertaining to this **PLAN APPROVAL**, please contact Dan Kamieniecki at the Regional Office at (508) 946-2717.

Very truly yours,

This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.

Thomas Cushing, Chief
Permit Section
Bureau of Waste Prevention

Attachments: Appeal of Approval
Tables A, B, C, D, and E

cc: K Kelley, Acushnet Company
D Raczynski, P.E., Principal, Epsilon Associates
Board of Health, Dartmouth, MA
Fire Department, Dartmouth, MA
M Pinaud, DEP/SERO
L Black, DEP SERO
Y Tian, DEP Boston

APPEAL OF APPROVAL

This Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts which are the grounds for the request, and the relief sought. Additionally, the request must state why the Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

The request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Table A – Process Potential Emission Limitations

PROCESS CATEGORY	PM EMISSIONS (LBS/MO)	PM EMISSIONS (TPY)	VOC EMISSIONS (LBS/MO)	VOC EMISSIONS (TPY)
RTOs combined outlet ⁽¹⁾	735	2.63	1,200	4.00
Paint mix room ⁽²⁾	NA	NA	1,000	3.52
Primer spray booths	250	0.90	6,000	21.29
Pad printing (ink, thinner & cleaners)	NA	NA	3,700	10.8
Core mold release spray booth	4	0.02	NA	NA
Facility Wide Cleaning ⁽³⁾	NA	NA	900	3.54
Pressure Blast	3,361	12.05	NA	NA
Grinding (Wedco System)	112	0.24	NA	NA
Total	4,462	15.84	12,800	43.16

PROCESS CATEGORY	Individual HAP		Total HAP		HYC⁽⁴⁾	
	(LB/MO)	(TPY)	(LB/MO)	(TPY)	(LB/MO)	(TPY)
Facility Wide	<5,000	<10	<10,000	<25	149	0.6

Notes:

1. Emissions were based on 95.23% minimum overall VOC control efficiency of assumed maximum usage of top coat.
2. Emissions represent 3% of the total paint mixed for use that is left in the pots and emitted as fugitive emissions.
3. Includes mill cleaning, mold cleaning, miscellaneous cleaning in paint spraying operations, ultrasonic parts washer and maintenance parts washers.
4. Includes injection mold release agent and auto buff release (MAC 444A).

Table B – Maximum Combustion Emission Factor Limits

Pollutant <i>Emission Factors</i>	NO_x	VOC	SO₂	CO	PM
Boilers 1 & 2 ⁽¹⁾ (Natural gas) (lb/MMCF)	100	5.5	0.6	84	7.6
RTOs ⁽¹⁾⁽²⁾ (Natural gas) (lb/MMCF)	10.4	5.5	0.6	9.5	7.6
Emergency Generator ⁽³⁾ (diesel) (lb/10 ³ gal)	613	50 (as TOC)	40.3	132.1	43.1
IC Engine (Natural gas) (lb/MWhr)	0.3 ⁽⁴⁾	0.6 ⁽⁵⁾	0.6 ⁽⁶⁾ lb/MMCF	2.0 ⁽⁷⁾	0.1 ⁽⁸⁾

Notes:

1. Emission factors for boilers 1, 2, and the RTO's are as specified in the July 1998 (natural gas) supplement of "Compilation of Air Pollutant Emission Factors," EPA Publication No. AP-42.
2. The manufacturer provided RTO natural gas emission factors for NO_x and CO.
3. Emission factors for the emergency generator are as specified in the October 1996 (section 3.3 – diesel engines) supplement of "Compilation of Air Pollutant Emission Factors," EPA Publication No. AP-42.
4. IC Engine NO_x, based on Industry Performance Standards limits.
5. IC Engine VOC based on manufacturer's guarantee with an oxidation catalyst.
6. IC Engine SO₂ same as boilers (0.6 lb/MMCF).
7. IC Engine CO based on Industry Performance Standards limits and NMCPA.
8. IC Engine PM (filterable & condensable) from EPA AP-42 Table 3.2-2 for 4-Stroke Lean Burn Engines.

Table C – Combustion Potential Emission Limitations (TPY)

Equipment	SO₂	NO_x	CO	VOC	PM
No. 1 & No. 2 Boiler ⁽¹⁾	0.05	8.18	6.87	0.45	0.62
Emergency Generator ⁽²⁾	0.18	2.69	0.58	0.22	0.19
RTO #1 ⁽³⁾	0.01	0.114	0.104	0.06	0.08
RTO #2 ⁽³⁾	0.01	0.114	0.104	0.06	0.08
IC Engine ⁽³⁾⁽⁴⁾	0.05	2.63	17.52	5.26	0.87
Total	0.30	13.73	25.18	6.05	1.84

Notes:

1. Potential emissions for boilers no. 1 & 2 are calculated at 163,636 MMBtu/yr firing natural gas at the maximum heat input rate and using worst-case fuel emission factors.
2. Potential emissions for the emergency generator are calculated at 300 hours per year firing diesel fuel. VOC potential emissions are based on a TOC emission factor.
3. Potential emissions are calculated at 8,760 hr/yr firing natural gas
4. The potential ammonia emissions from the selective catalytic reducer are limited to 2.2 TPY.

Table D – Combustion Potential Emission Limitations (tons/mo)

Equipment	SO₂	NO_x	CO	VOC	PM
No. 1 & No. 2 Boiler ⁽¹⁾	0.01	1.38	1.16	0.076	1.16
Emergency Generator ⁽²⁾	0.18	2.69	0.58	0.22	0.19
RTO #1 ⁽³⁾	0.006	0.011	0.01	0.006	0.008
RTO #2 ⁽³⁾	0.006	0.011	0.01	0.006	0.008
IC Engine ⁽³⁾⁽⁴⁾	0.005	0.27	1.75	0.53	0.09
Total	0.21	4.34	3.51	0.84	0.40

Notes:

1. Potential emissions for boilers no. 1 & 2 are calculated at 27,552 MMBtu/mo firing natural gas at the maximum heat input rate and using worst-case fuel emission factors.
2. Potential emissions for the emergency generator are calculated at 300 hours per month firing diesel fuel. VOC potential emissions are based on a TOC emission factor.
3. Potential emissions are calculated at 8,760 hr/yr firing natural gas.
4. The potential ammonia emissions from the selective catalytic reducer are limited to 0.22 tons/mo.

Table E – Maximum Facility Wide Potential Emission Limitations

Pollutant	Total Allowable Emissions	
	TPY	Pounds/Month
VOC	49.21 ⁽¹⁾	14,476 ⁽²⁾
NO_x	13.73	8,689
SO₂	0.30	411
CO	25.18	7,018
PM	17.68	5,257
HOC/ HYC	0.6	149
Acetone	1.0	500
Ammonia	2.2	440
HAPS (IND)	<10	<5,000
HAPS (TOTAL)	<25	<10,000

Notes:

1. Includes a total of 6.05 tpy non-methane hydrocarbons from combustion sources and 0.22 tpy TOC from the emergency generator (combustion source).
2. Includes a total of 1241 lb/mo non-methane hydrocarbons from combustion sources and 439 lb/mo TOC from the emergency generator (combustion source).